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EXAMINER	
CHANDRASEKHAR, PRANAV	
ART UNIT	**PAPER NUMBER**
2115	3

DATE MAILED: 06/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/916,317	MIN, BYUNG-SUN	
	Examiner	Art Unit	
	Pranav Chandrasekhar	2115	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 July 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sellers [US Pat No. 5,675,810] in view of Endo et al [US Pat No. 6,493,100].

2. As per claim 1, Sellers teaches

determining whether or not the peripheral device has a first power save mode [col. 2 lines 32-47. The transition of the disk drive and motor to a first power save mode is viewed as a result of the determination of the presence of a first power save mode.];

determining whether or not the computer is turned on, if it is determined that the peripheral device has the first power save mode, characterized in that it is determined that the computer is not turned on when the computer does not receive power, when the computer is in a second power save mode or when the connection between the computer and the peripheral device is cut off [col. 2 lines 32-47. The sleep mode of the computer is viewed as a second power save mode.]; and

making the peripheral device enter into the first power save mode, if it is determined that the computer is not turned on, wherein the first power save mode

corresponds to a state in which the peripheral device consumes less power than when the peripheral device is in a normal operating state [col. 2 lines 32-47].

Sellers does not explicitly teach

determining whether or not a predetermined period has elapsed since the peripheral device has last performed its unique function, if it is determined that the computer is turned on; and

making the peripheral device enter into the first power save mode, if it is determined that the predetermined time period has elapsed, wherein the first power save mode corresponds to a state in which the peripheral device consumes less power than when the peripheral device is in a normal operating state.

Endo teaches

determining whether or not a predetermined period has elapsed since the peripheral device has last performed its unique function, if it is determined that the computer is turned on [col. 16 lines 5-11. The computer is viewed as being turned on when a printing operation is being executed.]; and

making the peripheral device enter into the first power save mode, if it is determined that the predetermined time period has elapsed, wherein the first power save mode corresponds to a state in which the peripheral device consumes less power than when the peripheral device is in a normal operating state [col. 16 lines 5-11].

It would have been obvious to one of ordinary skill in the art to combine the teachings of Sellers and Endo to incorporate the monitoring of a predetermined time

following which the peripheral device enters a power-save mode in order to facilitate power consumption by the peripheral device while the computer is turned on and not limit power consumption within the peripheral to a situation in which the computer is off or in a power-save mode.

3. As per claim 2, Sellers further teaches

making the peripheral device exit from the first power save mode, when it is determined that the computer is turned on [col. 2 lines 42-47].

Sellers and Endo do not explicitly teach

determining whether the peripheral device was made to enter the first power save mode because the computer is not turned on;

continuously determining whether or not the computer is turned on, when it is determined that the peripheral device was made to enter the first power save mode because the computer is not turned on.

It would have been obvious to one of ordinary skill in the art to modify the teachings of Sellers and Endo to determine whether the peripheral device was made to enter the first power save mode because the computer is not turned on, and to continuously monitor the power mode of the computer (i.e. on or off) and accordingly facilitate the transition of the peripheral device to a power-save mode in order to ensure that the peripheral device is not consuming power at any time during which the computer is turned off.

4. Claims 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sellers [US Pat No. 5,675,810] in view of Endo et al [US Pat No. 6,493,100] as

applied to claim 1 above, and further in view of Van Der Wulp [US Pat No. 6,704,063]

5. As per claim 3, Sellers and Endo do not explicitly teach

determining whether or not the user has requested that the peripheral device enter into the first power save mode if it is determined that the predetermined time period after the peripheral device performing its unique function has not elapsed, and returning to the step at which the elapse of a predetermined time period is determined, if it is determined that the user has not requested that the peripheral device enter into the first power save mode; and

performing the step of enabling the peripheral to transition to a first power save mode if it is determined that the user requests that the peripheral device enter into the first power mode.

Van Der Wulp teaches

determining whether or not the user has requested that the peripheral device enter into the first power save mode if it is determined that the predetermined time period after the peripheral device performing its unique function has not elapsed, and returning to the step at which the elapse of a predetermined time period is determined, if it is determined that the user has not requested that the peripheral device enter into the first power save mode [col. 6 lines 22-36]; and

transitioning the peripheral to a first power save mode if it is determined that the user requests that the peripheral device enter into the first power mode [col. 6 lines 22-36].

It would have been obvious to one of ordinary skill in the art to combine the teachings of Sellers, Endo and Van Der Wulp to incorporate a step in which the user may request the peripheral device to enter a first power save mode if it is determined that the predetermined period after the peripheral device performed its last function has not elapsed in order to provide the user with the option of manually placing the peripheral device in a power save mode.

6. As per claim 4, Sellers further teaches

making the peripheral device exit from the first power save mode, when it is determined that the computer is turned on [col. 2 lines 42-47].

Sellers, Endo and Van Der Wulp do not explicitly teach

determining whether the peripheral device was made to enter the first power save mode because the computer is not turned on;

continuously determining whether or not the computer is turned on, when it is determined that the peripheral device was made to enter the first power save mode because the computer is not turned on.

It would have been obvious to one of ordinary skill in the art to modify the teachings of Sellers, Endo and Van Der Wulp to determine whether the peripheral device was made to enter the first power save mode because the computer is not turned on, and to continuously monitor the power mode of the computer (i.e. on or off) and accordingly facilitate the transition of the peripheral device to a power-save mode in order to ensure that the peripheral device is not consuming power at any time during which the computer is turned off.

7. As per claim 5, Sellers, Endo and Van Der Wulp do not explicitly teach

determining whether the peripheral device was made to enter the first power save mode because the predetermined time period had elapsed since the peripheral device has last performed its unique function, when it is determined that the peripheral device was not made to enter the first power save mode because the computer is not turned on;

continuously determining whether or not the computer requests the peripheral device to perform its unique function, when it is determined that the peripheral device was made to enter the first power save mode because the predetermined time period had elapsed since the peripheral device has last performed its unique function; and

making the peripheral device exit from the first power save mode, when it is determined that the computer requests the peripheral device to perform its unique function.

It would have been obvious to one of ordinary skill in the art to modify the teachings of Sellers and Endo to determine if the transition of the peripheral device into a sleep mode was triggered by the time interval between the execution of the unique function of the peripheral device and the current time exceeding a predetermined time and to continuously monitor the time elapsed since the unique function was performed in order to reduce power consumption by switching the peripheral device to a sleep mode. Furthermore, it would have been obvious to make the peripheral device exit the first power save mode when the peripheral device must perform its unique function

since the peripheral device requires substantially higher power than that of a sleep mode to execute its function.

8. As per claim 6, Sellers and Endo do not explicitly teach

identifying the cause which made the peripheral device enter into the first power save mode to be due to the user's request and continuously determining whether or not the user requests the peripheral device to exit from the first power save mode; and

making the peripheral device exit from the first power save mode, when it is determined that the user requests the peripheral device to exit from the first power save mode.

Van Der Wulp teaches

making the peripheral device exit from the first power save mode, when it is determined that the user requests the peripheral device to exit from the first power save mode [col. 6 lines 53-59].

It would have been obvious to one of ordinary skill in the art to modify the teachings of Sellers, Endo and Van Der Wulp to identify a user request as the trigger for the transition of the peripheral device into the first power save mode and continuously determine whether the user requests the peripheral device to exit from the first power save mode in order to facilitate supply of increased power for specific operations following the user request.

9. Claims 7-13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sellers [US Pat No. 5,675,810] in view of Endo et al [US Pat No. 6,493,100] and further in view of Kikinis et al [US Pat No. 5,821,924].

10. As per claim 7, Sellers teaches

a control unit for outputting the power control signal in response to a power identification signal indicative of a power state of the computer, which has a predetermined level when the computer is turned on and is input from the communication cable [col. 2 lines 42-47; col. 2 lines 63-67. The reduction of power to the peripheral device is viewed as a response to a power identification signal representing the sleep mode of the computer. The reduced power mode of the computer when it is turned on is viewed as a power identification signal having a predetermined level].

Sellers does not explicitly teach

a power unit having a primary part for converting alternating current (AC) power input from the outside into direct current (DC) power, and a secondary part for providing the DC power as the power for the peripheral components, in response to a power control signal;

a counter for performing a counting operation in response to a counting-start signal, and outputting the counted result;

a comparison unit for comparing the counted result with a predetermined time period, and outputting the compared result;

a control unit for outputting the power control signal in response to the compared result, said control unit checking whether or not the unique function of the peripheral device is performed, and outputting the counting-start signal when it is determined that the unique function of the peripheral device is performed.

Endo teaches

a counter for performing a counting operation in response to a counting-start signal, and outputting the counted result [col. 16 lines 6-11. The predetermined time is viewed as being counted by a counter.];

a comparison unit for comparing the counted result with a predetermined time period, and outputting the compared result [col. 16 lines 6-11. The comparison of elapsed time with predetermined time is viewed as being performed by a comparison unit.];

a control unit for outputting the power control signal in response to the compared result, said control unit checking whether or not the unique function of the peripheral device is performed, and outputting the counting-start signal when it is determined that the unique function of the peripheral device is performed [col. 16 lines 6-11].

Endo does not explicitly teach

a power unit having a primary part for converting alternating current (AC) power input from the outside into direct current (DC) power, and a secondary part for providing the DC power as the power for the peripheral components, in response to a power control signal;

Kikinis teaches

a power unit having a primary part for converting alternating current (AC) power input from the outside into direct current (DC) power, and a secondary part for providing the DC power as the power for the peripheral components, in response to a power control signal [col. 6 lines 29-34. The conversion to a DC supply from the AC input is viewed as being performed by a primary part of a power unit. The supply of DC power to the monitor is viewed as being performed by a secondary part of the power unit.].

It would have been obvious to one of ordinary skill in the art to combine the teachings of Sellers, Endo and Kikinis to utilize power state of the computer as well as a predetermined time since a peripheral has performed its unique function as a trigger to enable the transition of the peripheral device to a specific power mode in order to conserve power.

11. As per claim 8, Sellers, Endo and Kikinis do not explicitly teach the control unit outputting a power control signal having a first logic level in response to a power save request signal or a second logic level in response to a power save exit request signal input from the outside.

It would have been obvious to one of ordinary skill in the art to modify the teachings of Sellers, Endo and Kikinis to enable the control unit to output two separate logic levels corresponding to a power save request signal or a power save exit request signal since the logic level of a signal triggers transitions in power mode.

12. As per claim 9, Sellers, Endo and Kikinis do not explicitly teach the communication cable being an individual cable, which connects the computer and the

respective peripheral device, and the power identification signal being input via one data line among data lines of the individual cable.

It would have been obvious to one of ordinary skill in the art to modify the teachings of Sellers, Endo and Kikinis to utilize a an individual communication cable to connect the computer and the respective peripheral device, and the power identification signal being input via one data line among data lines of the individual cable since only a single bit is required by the identification signal to represent a power state of the computer.

13. As per claim 10, Sellers, Endo and Kikinis do not explicitly teach the communication cable being a common cable, which commonly connects the computer and at least one or more peripherals, and the power identification signal is input via a voltage bus of the common cable.

It would have been obvious to one of ordinary skill in the art to modify the teachings of Sellers, Endo and Kikinis to incorporate a common communication cable that connects the computer with one or more peripherals, wherein the power identification signal is input via a voltage bus of the common cable.

14. As per claim 11, Sellers further teaches

determining whether or not the peripheral device has a first power save mode [col. 2 lines 32-47. The transition of the disk drive and motor to a first power save mode is viewed as a result of the determination of the presence of a first power save mode.];

determining whether or not the power identification signal is indicative of the computer being turned on, if it is determined that the peripheral device has the first power save mode, characterized in that it is determined that power identification signal is indicative of the computer being in an off power state when the computer does not receive power, when the computer is in a second power save mode or when the connection between the computer and the peripheral device is cut off [col. 2 lines 32-47. The sleep mode of the computer is viewed as a second power save mode.]; and

making the peripheral device enter into the first power save mode, if it is determined that the power identification signal is indicative of the computer being in an off state, wherein the first power save mode corresponds to a state in which the peripheral device consumes less power than when the peripheral device is in a normal operating state [col. 2 lines 32-47].

Sellers does not explicitly teach

determining whether or not a predetermined period has elapsed since the peripheral device has last performed its unique function, if it is determined that the power identification signal is indicative of the computer being in an on power state; and

making the peripheral device enter into the first power save mode, if it is determined that the predetermined time period has elapsed, wherein the first power save mode corresponds to a state in which the peripheral device consumes less power than when the peripheral device is in a normal operating state.

Endo further teaches

determining whether or not a predetermined period has elapsed since the peripheral device has last performed its unique function, if it is determined that the power identification signal is indicative of the computer being in an on power state [col. 16 lines 6-11]; and

making the peripheral device enter into the first power save mode, if it is determined that the predetermined time period has elapsed, wherein the first power save mode corresponds to a state in which the peripheral device consumes less power than when the peripheral device is in a normal operating state [col. 16 lines 6-11].

It would have been obvious to one of ordinary skill in the art to combine the teachings of Sellers, Endo and Kikinis to incorporate the monitoring of a predetermined time following which the peripheral device enters a power-save mode in order to facilitate power consumption by the peripheral device while the computer is turned on and not limit power consumption within the peripheral to a situation in which the computer is off or in a power-save mode.

15. As per claim 12, Sellers further teaches

making the peripheral device exit from the first power save mode, when it is determined that the power identification signal is indicative of the computer being in an on power state [col. 2 lines 42-47].

Sellers, Endo and Kikinis do not explicitly teach

determining whether the peripheral device was made to enter the first power save mode because the power identification signal was indicative of the computer being in off power state; and

continuously determining whether or not the computer is turned on, when it is determined that the peripheral device was made to enter the first power save mode due to the power identification signal indicating that the computer was in an off power state.

It would have been obvious to one of ordinary skill in the art to modify the teachings of Sellers, Endo and Kikinis to determine whether the peripheral device was made to enter the first power save mode because the computer is not turned on, and to continuously monitor the power mode of the computer (i.e. on or off) and accordingly facilitate the transition of the peripheral device to a power-save mode in order to ensure that the peripheral device is not consuming power at any time during which the computer is turned off.

16. As per claim 13, Sellers, Endo and Kikinis do not explicitly teach

determining whether the peripheral device was made to enter the first power save mode because the predetermined time period had elapsed since the peripheral device has last performed its unique function, when it is determined that the peripheral device was not made to enter the first power save mode due to the power identification signal indicating that the computer was in an off power state;

continuously checking for a computer request requesting the peripheral device to perform its unique function, when it is determined that the peripheral device was

made to enter the first power save mode because the predetermined time period had elapsed since the peripheral device has last performed its unique function; and

making the peripheral device exit from the first power save mode, when it is determined that the computer requests the peripheral device to perform its unique function.

It would have been obvious to one of ordinary skill in the art to modify the teachings of Sellers, Endo and Kikinis to determine if the transition of the peripheral device into a sleep mode was triggered by the time interval between the execution of the unique function of the peripheral device and the current time exceeding a predetermined time and to continuously monitor the time elapsed since the unique function was performed in order to reduce power consumption by switching the peripheral device to a sleep mode. Furthermore, it would have been obvious to make the peripheral device exit the first power save mode when the peripheral device must perform its unique function since the peripheral device requires substantially higher power than that of a sleep mode to execute its function.

17. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sellers [US Pat No. 5,675,810] in view of Endo et al [US Pat No. 6,493,100] and Kikinis et al [US Pat No. 5,675,810] as applied to claim 7 above, and further in view of Van Der Wulp [US Pat No. 6,704,063].

18. As per claim 14, Sellers, Enodo and Kikinis do not explicitly teach

determining whether or not the user has requested that the peripheral device enter into the first power save mode; and

making the peripheral device enter the first power save mode when it is determined that the user requests that the peripheral device enter into the first power mode.

Van Der Wulp teaches

determining whether or not the user has requested that the peripheral device enter into the first power save mode [col. 6 lines 22-36]; and

making the peripheral to a first power save mode if it is determined that the user requests that the peripheral device enter into the first power mode [col. 6 lines 22-36].

It would have been obvious to one of ordinary skill in the art to combine the teachings of Sellers, Endo, Kikinis and Van Der Wulp to incorporate a step in which the user may request the peripheral device to enter a first power save mode in order to provide the user with the option of manually placing the peripheral device in a power save mode.

19. As per claim 15, Sellers, Enodo and Kikinis do not explicitly teach

determining whether or not the user has requested that the peripheral device exit from the first power save mode; and

making the peripheral device exit from the first power save mode, when it is determined that the user requests the peripheral device to exit from the first power save mode.

Van Der Wulp teaches

determining whether or not the user has requested that the peripheral device exit from the first power mode [col. 6 lines 53-59]; and

making the peripheral device exit from the first power save mode, when it is determined that the user requests the peripheral device to exit from the first power save mode [col. 6 lines 53-59].

It would have been obvious to one of ordinary skill in the art to modify the teachings of Sellers, Endo, Kikinis and Van Der Wulp to identify a user request as the trigger for the transition of the peripheral device into the first power save mode and continuously determine whether the user requests the peripheral device to exit from the first power save mode in order to facilitate supply of increased power for specific operations following the user request.

Conclusion

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pranav Chandrasekhar whose telephone number is 703-305-8647. The examiner can normally be reached on 8:30 a.m.-5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Lee can be reached on 703-305-9717. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 703-746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-2100.

Pranav Chandrasekhar
June 13,2004

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